

REPORT ON BOILERS.

No. 275.

Received at London Office 9 - AUG 1928

Survey Report 2nd August 1928 When handed in at Local Office 4th August 1928 Port of Helsingborg
 Survey held at Landskrona Date, First Survey 12th June Last Survey 20th July 1928
 on the Steel Twin Se 4 Mast Se "N.T. NIELSEN-FLONSO" (Number of Visits 10) Gross 9516 Tons Net 5676.
 Built at Glasgow By whom built C. Canell & Co. Yard No. ✓ When built 1900
 Made at Glasgow By whom made Dunsmuir & Jackson Engine No. ✓ When made 1900
 By whom made Arns Mek. Verkstad Boiler No. ✓ When made 1926.
 Horse Power 608 Owners Hvalfangerelsk. Polaris F.S. Port belonging to Larvik.

TUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

(Letter for Record ✓)
 Material of Steel ✓
 Heating Surface of Boilers 2353, 58 sq. feet Is forced draught fitted No Coal or Oil fired coal
 Description of Boilers one cylindrical multi-tubular 1SB. Working Pressure 180 lbs/sq. in.
 Hydraulic pressure to 320 lbs/sq. in. Date of test 9/7/28 No. of Certificate ✓ Can each boiler be worked separately yes
 Regrate in each Boiler ✓ No. and Description of safety valves to each boiler Two spring loaded
 Each set of valves per boiler {per Rule 14, 12 sq. in. 150 Pressure to which they are adjusted 180 lbs/sq. in. Are they fitted with easing gear yes
 {as fitted 14, 14 sq. in. ✓
 Donkey boilers, state whether steam from main boilers can enter the donkey boiler No
 Distance between boilers or uptakes and bunkers or woodwork 25" Is oil fuel carried in the double bottom under boilers No
 Distance between shell of boiler and tank top plating 32" Is the bottom of the boiler insulated yes
 External dia. of boilers 14' 3" Length 11' 6" Shell plates: Material Steel Tensile strength Above 28 tons/sq. in.
 19' 32" Are the shell plates welded or flanged No Description of riveting: circ. seams double riveted
 Double end straps double riveted Diameter of rivet holes in {circ. seams 1 1/4" Pitch of rivets {circ. seams 4 1/2"
 {long. seams 1 3/8" {long. " 10"
 of strength of circ. end seams {plate 86.25 Percentage of strength of circ. intermediate seam {plate ✓
 {rivets 86.19 {rivets ✓
 of strength of longitudinal joint {plate 86.25 Working pressure of shell by Rules 198 lbs/sq. in.
 {rivets 86.19 {combined ✓
 Butt straps {outer 15 1/16" No. and Description of Furnaces in each Boiler 3 Marisons. 3cf.
 {inner 1 1/8" Tensile strength 26-30 tons/sq. in. Smallest outside diameter 3' 9 1/4" 36 3/4"
 Main part {top Steel Thickness of plates {crown 1 9/32" Description of longitudinal joint welded
 {bottom ✓ {bottom ✓
 of stiffening rings on furnace or c.c. bottom ✓ Working pressure of furnace by Rules 190 lbs/sq. in.
 In steam space: Material Steel Tensile strength ✓ Thickness 1 1/16" Pitch of stays 15" x 18 1/2" 15 1/2" 17"
 Stays secured Double nuts & washers Working pressure by Rules 186 lbs/sq. in.
 Material {front Steel Tensile strength ✓ Thickness {front 1 1/16" Working pressure {front 204 lbs/sq. in.
 {back " {back 7/8" {back 228 lbs/sq. in.
 of stay tubes in nests 13 7/8" x 9" Pitch across wide water spaces 14" x 9" Working pressure {front 204 lbs/sq. in.
 {back 228 lbs/sq. in.
 Combustion chamber tops: Material Steel Tensile strength ✓ Depth and thickness of girder
 3 1/4" x 2 5/32" x 3 1/2" Length as per Rule 31" Distance apart 10 7/8" No. and pitch of stays
 1 1/4" x 7" Working pressure by Rules 191 lbs/sq. in. Combustion chamber plates: Material Steel
 Thickness: Sides 23/32" Back 11/16" Top 23/32" Bottom 13/16"
 to ditto: Sides 7 1/2" x 6 1/4" Back 8" x 7 1/2" Top None Are stays fitted with nuts or riveted over Riveted
 Working pressure by Rules 180 lbs/sq. in. Front plate at bottom: Material Steel Tensile strength ✓ Thickness 7/8"
 1 1/16" Lower back plate: Material Steel Tensile strength ✓ Thickness 7/8"
 at wide water space 13 7/8" x 8" Are stays fitted with nuts or riveted over Nuts on outer margin stays only
 Working pressure 346 lbs/sq. in. Main stays: Material Steel Tensile strength ✓
 Day of stay 2 3/4" No. of threads per inch 6 Area supported by each stay 15" x 18" 15 1/2" 17"
 or threads 3" Screw stays: Material Steel Tensile strength ✓
 Working pressure by Rules 267 lbs/sq. in. No. of threads per inch 9 Area supported by each stay 8" x 7 1/2"
 Thread at part 1 1/2"

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Working pressure by Rules $243 \frac{lb}{sq. in.}$ Are the stays drilled at the outer ends *No* Margin stays: Diameter $\frac{1}{4}$ "
 No. of threads per inch *9* Area supported by each stay $13 \frac{7}{8} \times 8$ Working pressure by Rules $171 \frac{lb}{sq. in.}$
 Tubes: Material *Steel* External diameter $3 \frac{1}{2}$ " Thickness $\frac{5}{16}$ " No. of threads per inch *10*
 Pitch of tubes $4 \frac{7}{8} \times 4 \frac{1}{2}$ Working pressure by Rules $215 \frac{lb}{sq. in.}$ Manhole compensation: Size of opening in
 shell plate 12×16 Section of compensating ring $2'5 \frac{1}{2} \times 2'1 \frac{1}{2} \times 1' \frac{1}{32}$ No. of rivets and diameter of rivet holes 36×1 "
 Outer row rivet pitch at ends ☒ Depth of flange if manhole flanged ☒ Steam Dome: Material ☒
 Tensile strength ☒ Thickness of shell ☒ Description of longitudinal joint ☒
 Diameter of rivet holes ☒ Pitch of rivets ☒ Percentage of strength of joint ☒
 Internal diameter ☒ Working pressure by Rules ☒ Thickness of crown ☒ No. and diameter of
 stays ☒ Inner radius of crown ☒ Working pressure by Rules ☒
 How connected to shell ☒ Size of doubling plate under dome ☒ Diameter of rivet holes and pitch
 of rivets in outer row in dome connection to shell ☒

Type of Superheater *None* Manufacturers of ☒ Tubes ☒
☒ Steel castings ☒
 Number of elements ☒ Material of tubes ☒ Internal diameter and thickness of tubes ☒
 Material of headers ☒ Tensile strength ☒ Thickness ☒ Can the superheater be shut off and
 the boiler be worked separately ☒ Is a safety valve fitted to every part of the superheater which can be shut off from the boiler ☒
 Area of each safety valve ☒ Are the safety valves fitted with easing gear ☒ Working pressure as per
 Rules ☒ Pressure to which the safety valves are adjusted ☒ Hydraulic test pressure:
 tubes ☒ castings ☒ and after assembly in place ☒ Are drain cocks or valves fitted
 to free the superheater from water where necessary ☒

Have all the requirements of Sections 14 to 23 inclusive for boilers been complied with *Yes*.

The foregoing is a correct description,

Manufacturer.

Dates of Survey ☒ During progress of work in shops - $12/6, 17/6, 20/6$ Are the approved plans of boiler and superheater forwarded herewith *Yes*.
☒ while building ☒ During erection on board vessel - $23/6, 26/6, 28/6, 7/7, 9/7, 12/7, 20/7$ (If not state date of approval.)
 Total No. of visits *10*

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)

This boiler has been fitted on board the above vessel as a auxiliary main boiler under our inspection and to our satisfaction.

New seating built up & the floors in double bottom tanks strengthened accordingly. The boiler carefully examined in & externally, found in a good and safe working condition without any signs of washings or corrosions and the scantlings of same compared with the approval plan as far as practicable. The boiler insulated.

The safety valves & mountings now fitted new and manufactured by AS Nordiska Armaturfabrikerna, Stockholm. Steam & water pipes now fitted & tested as per Rule & the pumping system altered accordingly.

The boiler found marked: *Proved 400 LBS. M. 9. 26. RAKER T.H.* Now retested with water pressure to 320 lbs/sq. in. and marked: *Retested LLOYD'S 320 LBS. W.P. 180 LBS. F.S. 9.7.28* The workmanship is good.
 Please see Surveyor's letter. of the 7th June 1928 to the Surveyors, Oslo.

Survey Fee ... $\pounds 200:00$ When applied for, *4th August 1928*
 Travelling Expenses (if any) $\pounds 45:00$ When received, *4th August 1928*

Abundin T. Areson.
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUES 28 AUG 1928

Assigned



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